

2. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over an insulating substrate;

terminating dangling bonds on a surface of the semiconductor film comprising silicon with oxygen as a pretreatment;

A1  
Cont. doping the semiconductor film comprising silicon with impurity ions after terminating dangling bonds on a surface of the semiconductor film; and

forming at least one channel region comprising a portion of the doped semiconductor film.

3. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over an insulating substrate;

terminating dangling bonds on a surface of the semiconductor film comprising silicon with an element to be bonded with bonding energy higher than that of Si-H bonds as a pretreatment;

doping the semiconductor film comprising silicon with impurity ions after terminating dangling bonds on a surface of the semiconductor film; and

forming at least one channel region comprising a portion of the doped semiconductor film.

23. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

A2 forming a semiconductor film comprising silicon over an insulating substrate;

forming a chemical oxide film on a surface of the semiconductor film comprising silicon as a pretreatment;

doping the semiconductor film comprising silicon with impurity ions after forming the channel oxide film;

patterning the semiconductor film to form at least one active layer after doping;

forming a gate insulating film over the active layer after patterning the semiconductor film; and

forming a gate electrode over the semiconductor film with the gate insulating film interposed therebetween,

wherein the chemical oxide film is formed by a treatment with at least one material selected from the group of: ozone water and a hydrogen peroxide solution.

Please add new claims 28-36 as follows:

--28. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over an insulating substrate;

forming a chemical oxide film on a surface of the semiconductor film comprising silicon as a pretreatment;

doping the semiconductor film comprising silicon with impurity ions after forming a channel oxide film;

forming a gate insulating film over the semiconductor film after doping; and

forming a gate electrode over the gate insulating film.

29. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over an insulating substrate;

terminating dangling bonds on a surface of the semiconductor film comprising silicon with oxygen as a pretreatment;

doping the semiconductor film comprising silicon with impurity ions after terminating dangling bonds;

forming a gate insulating film over the semiconductor film after doping;  
and

forming a gate electrode over the gate insulating film.

30. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over an insulating substrate;

terminating dangling bonds on a surface of the semiconductor film comprising silicon with an element to be bonded with bonding energy higher than that of Si-H bonds as a pretreatment;

doping the semiconductor film comprising silicon with impurity ions after terminating dangling bonds;

forming a gate insulating film over the semiconductor film after doping;  
and

forming a gate electrode over the gate insulating film.

31. A method of manufacturing a semiconductor device according to claim 28, wherein, in the doping step, a material gas is at least one selected from the group consisting of diborane, phosphine, arsine and those obtained through dilution thereof with hydrogen.

32. A method of manufacturing a semiconductor device according to claim 29, wherein, in the doping step, a material gas is at least one selected from the group consisting of diborane, phosphine, arsine and those obtained through dilution thereof with hydrogen.

33. A method of manufacturing a semiconductor device according to claim 30, wherein, in the doping step, a material gas is at least one selected from the group

A3  
cont.

consisting of diborane, phosphine, arsine and those obtained through dilution thereof with hydrogen.

34. A method of manufacturing a semiconductor device according to claim 28, wherein the semiconductor device is at least one device selected from the group of: a personal computer, a video camera, a mobile computer, a goggle type display device, a DVD player, a CD player, a portable telephone, a front type projector and a rear type projector.

A<sup>3</sup> 35. A method of manufacturing a semiconductor device according to claim 29, wherein the semiconductor device is at least one device selected from the group of: a personal computer, a video camera, a mobile computer, a goggle type display device, a DVD player, a CD player, a portable telephone, a front type projector and a rear type projector.

36. A method of manufacturing a semiconductor device according to claim 30, wherein the semiconductor device is at least one device selected from the group of: a personal computer, a video camera, a mobile computer, a goggle type display device, a DVD player, a CD player, a portable telephone, a front type projector and a rear type projector.--

---